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EXAMINER	
MERED, HABTE	

ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/583,671	LOHR ET AL.	
	Examiner	Art Unit	
	HABTE MERED	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *79,81-100 and 102-119* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *79, 81-100, and 102-119* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 April 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/15/08 has been entered.

2. Claims 79, 81-100, and 102-119 are currently pending. Claims 80 and 101 are cancelled. Claims 79, 100, 114, 116, 118, and 119 are the base independent claims and are currently amended.

3. The declaration under 37 CFR 1.132 filed 12/15/08 is insufficient to overcome the rejection of independent claims79, 100, 114, 116, 118, and 119 based upon Nokia-3GPP ("QoS and Scheduling Principles in HSUPA", 3GPP TSG-RAN WG2 #43, R2-041519, Nokia, August, 2004) in view of Kekki (US Pub. No. 2005/0073953 A1) and Schultz (WIPO WO 01/63855 A1) as set forth in the last Office action because:

a. The Declaration describes in item 6 the different options for uplink scheduling described by Nokia-3GPP. It should be noted that the last Office Action only primarily relied on option 4 described in section 2.1 by Nokia-3GPP and all discussion of options 1-3 mentioned in the Declaration as well as in the Remarks are irrelevant.

In the Declaration in item 6.1 the inventor suggests that the Nokia-3GPP document does not support multiplexing of Mac-d flows into one MAC-e PDU because the E-DCH was agreed at a later date in 12/2004. Further the inventor discloses in item 6.2.4 that the MAC-d multiplexing discussed in the 4th option of section 2.1 is the multiplexing of the logical channels at the Mac-d level and does not involve multiplexing of flows as claimed in the claims.

Examiner disagrees with Inventor's interpretation of Nokia-3GPP's option 4 disclosures in Section 2.1. Nokia-3GPP fourth option clearly discloses in the first paragraph that there is Mac-d and Mac-e multiplexing and de-multiplexing. Each Mac-d flow can have one or more priority queues. A Mac-d flow with a single queue is still a Mac-d flow and reads on the claims. A Mac-d flow with several queues still results in several flows. The output of the queues can still be viewed as flows and as long as these flows are multiplexed and later de-multiplexed then the limitation of multiplexing of the flows is readily met. More over the NEC document (TSG-RAN Working Group 1#38bis, South Korea, 20-24 September 2004) previously used as a prior art publicly discloses prior to 12/2004 that in the first bullet item that Mac-d flow multiplexing is supported and QoS is associated with Mac-d flow.

b. The Declaration indicates in item 6.2.4 that Nokia-3GPP option 4 discloses relative priority of queues of the Mac-d flows and fails to disclose on other QoS attributes. The Examiner emphasizes here that priority is a form of QoS and the inventor is not contesting that aspect but emphasizing that there is

more to QoS than priority. However the claimed limitation only requires a general QoS attribute and does not explicitly require QoS attributes that more than includes queue priority and data rates.

c. The Declaration indicates in item 6.2.4 that Nokia-3GPP fails to disclose a flow identifier in the scheduling requests generated by the UE as required in the independent claims. Again Examiner emphasizes that in the 2nd paragraph of the 4th option in Nokia-3GPP that priority can be specified at a Mac-d flow level or at a queue level and a service priority indicator is used in formulating any signaling and it is obvious such a flow indicator can be used in the UE scheduling request.

d. The Declaration indicates in item 7.2 that Kekki discloses that the RNC transmitting to the Node B a different type of QoS than what is actually claimed in the claims. The Examiner reminds the inventor that Kekki was strictly introduced to disclose receiving at the base station (i.e. Node B) from radio network controller (i.e. RNC) Quality of Service information. The correct type of QoS for flows/queues being stored in the Node B is already taught byNokia-3GPP.

e. The Declaration indicates in item 8 that Schultz should be disqualified as a prior art because the scheduling of uplink resources is either done at UE or RNC as indicated on page 21 and does not involve the base station or Node B. The Examiner disagrees with the inventor interpretation of Schultz teachings. Schultz shows a Node B in Figure 2 and on page 21 in lines 30-31 indicates “...may be applied with the UMTS MAC layer in an RNC, a UE, etc." and does not preclude Node B MAC Layer as it is also a UMTS MAC layer.

4. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness. The prior arts and Foreign Patent Office Actions previously provided by Applicants provide over whelming evidence that the claimed invention as currently presented is broad and lacks novelty. In particular the primary reference, Nokia-3GPP, and NEC's 3GPP contribution "Per Priority Queue basis Rate Scheduling in Enhanced Uplink (R1-041125) clearly teach the subject matter indicated in the claimed invention. For instance NEC's 3GPP's Figure 2 is almost identical to Applicant's Figure 5 drawing ignoring the HARQ protocol.

Response to Arguments

5. Applicant's arguments filed 12/15/2008 have been fully considered but they are not persuasive.

6. Applicant in the Remarks on page 15 argues with respect claim 79 that the primary reference Nokia-3GPP could not teach multiplexing of multiple Mac-d flows into Mac-e PDU because the 3GPP standard body agreed on such a scheme in December 2004.

Examiner respectfully disagrees. Nokia-3GPP definitely teaches multiplexing of multiple Mac-d flows into Mac-e PDU because Nokia-3GPP fourth option clearly discloses in the first paragraph (line 10) that there is Mac-d and Mac-e multiplexing and de-multiplexing. Further prior to the standard body agreeing on

such a scheme Examiner has provided several prior arts that publicly disclose such a scheme. For instance see Terry'133 (Fig. 4) in this Office Action and the NEC document (TSG-RAN Working Group 1#38bis, South Korea, 20-24 September 2004).

7. Applicant in the Remarks, on page 18, argues with respect to claim 79 that the Node B is not aware of the QoS attributes of individual flows but knows the relative priority of the individual Mac-d flows served by Node B. Applicant further argues that QoS is more than priority.

Examiner respectfully disagrees. Applicant readily agrees priority of the flows is known by the Node B. If that is the case then priority is one aspect of QoS. Hence Node B at least knows the rate and priority of each flow and these parameters qualify as QoS parameters. Certainly QoS is broader than priority but given knowledge of parameters like rate and priority by Node B then still Node B in Nokia-3GPP has knowledge of 2 QoS attributes.

8. Applicant in the Remarks, on page 18, argues with respect to claim 79 that there is no flow identifier in the UE's rate/scheduling request.

Examiner respectfully disagrees. Again Examiner emphasizes that in the 2nd paragraph of the 4th option in Nokia-3GPP that priority can be specified at a Mac-d flow level or at a queue level and a service priority indicator is used in

formulating any signaling and it is obvious such a flow indicator can be used in the UE scheduling request.

9. Applicant in the Remarks repeats the same arguments presented in the Declaration with respect to Kekki's and Schultz's prior arts applicability to claim 79. Examiner has adequately responded above on how Schultz and Kekki are still viable prior arts and still disclose limitations of claim 79.

Specification

10. The disclosure is objected to because of the following informalities: In the published specification in paragraph 74 references are made to the independent claims and dependent claims. Such references to these claims need to be removed.

Appropriate correction is required.

Claim Objections

11. Claim 83 is objected to because of the following informalities: In line 2 of Claim 3 the word "oft e flow" is misspelled. Appropriate correction is required.

12. Claim 84 is objected to because of the following informalities: Claim 84 depends on cancelled claim 5. For the purpose of examining it is assumed claim 84 depends on claim 79. Appropriate correction is required.

13. Claim 87 is objected to because of the following informalities: In the last line of Claim 87 the word "L plink" is misspelled and needs to be replaced with "uplink". Appropriate correction is required.

14. Claim 100 is objected to because of the following informalities: In line 7 of Claim 100 the word "motile" is misspelled and needs to be replaced with "mobile". Appropriate correction is required.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. **Claims 79, 81, 82, 86, 88-97, 100, 102, 103, 106-111 and 118** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP ("QoS and Scheduling Principles in HSUPA", 3GPP TSG-RAN WG2 #43, R2-041519, Nokia, August, 2004) in view of Kekki (US Pub. No. 2005/0073953 A1) and Schultz (WIPO WO 01/63855 A1) and Terry et al (US Pub. No. 20050249133).

Regarding **Claim 79**, Nokia-3GPP discloses a method for scheduling transmissions of a plurality of mobile terminals **(i.e. UE)** in a mobile communication system **(See Section 2.1 deals with scheduling UEs by the base station, Node B)**, wherein each mobile terminal transmits data of at least one flow **(i.e. Mac-d flow)** being mapped on a dedicated uplink channel **(i.e. E-DCH as indicated in paragraph 2 of Section 2.1)** to a base station **(Node B)**, the method comprising:

receiving at least one scheduling request **(i.e. uplink grant request as shown in paragraph 1 of Section 2.1)** from at least one of the mobile terminals **(i.e. UEs)** at the base station **(i.e. Node B)**, wherein the scheduling request comprises an identifier

identifying one of the plurality of flows **(i.e. section 2.1 fourth option paragraph 1 grant request per priority queue associated with a specific flow like Applicant's Figure 10 and in paragraph 2 use of service priority id is disclosed. Further in paragraph 2 it is indicated that the service priority indicator can be associated with either the MAC-d flow or the queues associated with the MAC-d flow)**.

Nokia-3GPP fails to expressly disclose receiving at the base station from radio network controller Quality of Service attributes. Nokia-3GPP does teach the base station (i.e. Node B) knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station (i.e. Node B) from a radio network controller (i.e. RNC) Quality of Service attributes. **(See in Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and sending it to the base station. In paragraph 56 Kekki'953 discloses the QoS parameters can be for other channels which includes shared uplink and downlink channels in line with Nokia-3GPP uplink channels)**.

In view of the above, having the method of Nokia-3GPP and then given the well established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS) attributes of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal (See Section 2.1 option 4 for details).

However, the above mentioned claimed limitations are well known in the art as evidenced by Schultz'855. In particular, Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of QoS attributes of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at setup by Node-B as illustrated on page 28, Lines 19-22)** to be multiplexed **(i.e. the flows on the transport channels are muxed at the UE)** onto a single dedicated uplink channel **(i.e. physical channel DCH of Figure 7)** by a mobile terminal **(UE) (See also pages 6 and 7 discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure 7)**.

In view of the above, having the method of Nokia-3GPP and then given the well established teaching of Schultz'855, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing more than one incoming data flow onto a single output channel.

Nokia-3GPP also fails to expressly disclose requests allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request, and

scheduling by the base station uplink resources for transmissions of said mobile terminals on the dedicated uplink channel based on the identifier and the QoS attributes related to the flow identified by the identifier.

Nokia-3GPP, however, discloses scheduling by the base station (*i.e. Node B does scheduling in section 2.1 option 4)* the transmissions of the mobile terminals based on the identifier *(i.e. service priority indicator of section 2.1 option 4)* and the QoS information related to the flow identified by the identifier *(Nokia-3GPP discloses Node B knows the relative priority of each queue where priority by itself is a form of QoS and Node B takes into account the QoS info when making scheduling decisions as discussed in detail in Section 2.1 option 4)*.

However, the above mentioned claimed limitations are well known in the art as evidenced by Terry'133. In particular, Terry'133 discloses requests **(i.e. request generated by element 122 of mobile/WTRU of Fig. 3)** allocation of an uplink resource **(i.e. Uplink TFC set, rate, power as detailed in paragraphs 19 and 21)** for transmission on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** to the mobile terminal transmitting the respective scheduling request **(i.e. See Fig.2 WTRU 100 sending rate/schedule request as detailed in paragraphs 19-21)**, and

scheduling by the base station **(i.e. Node B 200 of Figs. 1 and 2)** uplink resources **(i.e. TFCS, time of transmission, power level – see paragraphs 19-22)** for

transmissions of said mobile terminals on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** based on the identifier and the QoS attributes related to the flow identified by the identifier **(i.e. even though Nokia-3GPP has disclosed flow identifier and each flow has some form of QoS stored in the Node B still Terry'133 teaches request is made per flow (i.e. "The EU rate request ....for each data flow.") in paragraphs 19 and 22 and Terry'133 further discloses the RNC configures the uplink QoS parameters for Node-B as detailed in paragraph 15 and all grants made to the mobile are subject to the configured QoS parameters in Node B as detailed in paragraphs 21, 23, and 28)** .

In view of the above, having the method of Nokia-3GPP and then given the well established teaching of Terry'133, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by Terry'133, since Terry'133 clearly states in paragraph 28 that the modification results in ability to manage uplink resources between the mobile and Node B.

Regarding **claim 81**, Nokia-3GPP discloses a method, wherein the flow has a priority. **(See Section 2.1 option 4 each mac-d flow has a priority derived from its corresponding logical prioritized queue)**.

Regarding **claim 82** Nokia-3GPP discloses a method wherein the flow is multiplexed on a MAC-d flow. **(See section 2.1 option 4)**

Regarding **claim 86**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the scheduling request received by the base station is transmitted via Medium Access Control (MAC) control signaling **(See Schultz'855 Figure 2 where the Mac-d has a dedicated control channel and the schedule request is transmitted from the UE to Node B using similar mechanism shown in Figure 3)**.

Regarding **claim 88**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the QoS attributes is received from a network element **(Kekki'953 shows the RNC setting QoS parameters for the base station in paragraph 54)** terminating the radio resource control signaling of at least one of the mobile terminals **(Schultz'855 shows in Figures 2 shows the RNC terminating the UE control message and Schultz'855 in Figure 3 shows the control message is an RRC signaling)**.

Regarding **claim 89**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the QoS attributes are included in a configuration message **(Schultz'855 on page 7, Lines 15-22 that the QoS is assigned when the RABs are configured by the RNC and necessitate use of configuration message as further suggested in Kekki'953 paragraph 48)**.

Regarding **claim 90**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method wherein the QoS attributes is received by the base station from the network element **(Kekki'953 shows the RNC setting QoS parameters for the base station in paragraph 54)**, terminating the radio resource control signaling in a radio link setup message or a radio link reconfiguration message **(Schultz'855 on page 7, Lines 15-22 and last paragraph of page 27 that the QoS is assigned when the RABs are configured and reconfigured by the RNC and necessitate use of configuration and reconfiguration message as further suggested in Kekki'953 paragraph 48)**.

Regarding **claim 91**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method, wherein the QoS attributes is received from a serving radio network controller **(Kekki'953 shows the serving RNC setting QoS parameters for the base station in paragraph 54 and also see Schultz'855 Figure 2)**.

Regarding **claim 92,** the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the flow is associated to at least one radio bearer between the mobile terminal and the network element terminating the radio resource control signaling and the method further comprises mapping QoS attributes of a radio bearer to the QoS attributes of the flow**. (Schultz'855 on page 28 in the last paragraph teaches mapping of radio bearer's QoS to the QoS flows as further shown in Figure 7).**

Regarding **claim 93**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the mapping of the QoS attributes comprises taking into account uplink delays on the interface between the base station and the network element terminating the radio resource control signaling **(Kekki'953 in paragraph 49 teaches taking into consideration such delays as a QoS parameter).**

Regarding **claim 94**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the flow is a MAC-d flow or a priority queue of the mobile terminal **(Nokia-3GPP teaches in section 2.1 option 4 that the flow can be a priority queue or a Mac-d flow)**.

Regarding **claim 95**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the scheduling request comprises an identifier identifying the highest priority flow (**Nokia-3GPP shows the scheduling request highest priority flow in Section 2.1 option 4).**

Regarding **claim 96**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method, wherein the highest priority flow has the highest QoS demands. **(Nokia-3GPP in Section 2.1 in the second option shows higher priority translates to higher QoS demands)**

Regarding **claim 97**, the combination of Nokia-3GPP, Kekki'953, and Schultz'855 disclose a method, wherein the QoS attributes comprises at least one of a transfer delay, a guaranteed bit rate, a traffic handling priority, a service type identification, a traffic class and a reordering release timer of the reordering buffer in the Medium Access Control (MAC) entity. **(Nokia-3GPP teaches service type identification in section 2.1 option 4 and Kekki'953 teaches traffic class of Diffserv as suggested in paragraph 11)**

Regarding **claim 100**, Nokia-3GPP discloses a base station **(i.e. Node B in Section 2 and 2.1)** for scheduling a plurality of transmissions of a plurality of mobile terminals in a mobile communication system, wherein each mobile terminal transmits data of at least one flow being mapped on a dedicated uplink channel **(i.e. E-DCH as indicated in paragraph 2 of Section 2.1 and options 3 and 4 teach more than mac-d flows being mapped to the uplink channel)** to a base station **(i.e. Node B)**, the base station comprising:

a communication section **(i.e. every base station has a communication section)** adapted and for receiving a scheduling request **(i.e. Uplink grant request)** from at least one of the mobile terminals **(i.e. uplink grant request as shown in paragraph 1 of Section 2.1 is received from UEs by Node B)**, wherein the scheduling request comprises an identifier **(i.e. service priority id)** identifying one of the plurality of flows **(i.e. section 2.1 fourth option paragraph 1 grant request per**

priority queue associated with a specific flow like Applicant's Figure 10 and in paragraph 2 use of service priority id is disclosed),

Nokia-3GPP fails to expressly disclose receiving at the base station from radio network controller Quality of Service attributes. Nokia-3GPP does teach the base station (i.e. Node B) knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station (i.e. Node B) from a radio network controller (i.e. RNC) Quality of Service attributes **(See in Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and sending it to the base station)**.

In view of the above, having the base station of Nokia-3GPP and then given the well established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the base station of Nokia-3GPP as taught by Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS) information of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal (See Section 2.1 option 4 for details).

Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of (QoS) information of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at setup by Node-B as illustrated on page 28, Lines 19-22)** to be multiplexed **(i.e. the flows on the transport channels are muxed at the UE)** onto a single dedicated uplink channel **(i.e. physical channel DCH of Figure 7)** by a mobile terminal **(UE) (See also pages 6 and 7 discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure 7)**.

In view of the above, having the base station of Nokia-3GPP and then given the well established teaching f Schultz'855, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the base station of Nokia-3GPP as taught by Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing more than one incoming data flow onto a single output channel.

Nokia-3GPP also fails to expressly disclose requests allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request, and

a scheduling section adopted to schedule uplink resources for transmissions of said mobile terminals on the dedicated uplink channel based on the identifier and the QoS attributes related to the flow identified by the identifier.

Nokia-3GPP, however, discloses a scheduling section adapted to schedule the transmissions of the mobile terminals *(i.e. Node B does scheduling in section 2.1 option*

4) based on the identifier *(i.e. service priority indicator of section 2.1 option 4)* and the QoS information related to the flow identified by the identifier *(Nokia-3GPP discloses Node B knows the relative priority of each queue where priority by itself is a form of QoS and Node B takes into account the QoS info when making scheduling decisions as discussed in detail in Section 2.1 option 4)*.

However, the above mentioned claimed limitations are well known in the art as evidenced by Terry'133. In particular, Terry'133 discloses requests **(i.e. request generated by element 122 of mobile/WTRU of Fig. 3)** allocation of an uplink resource **(i.e. Uplink TFC set, rate, power as detailed in paragraphs 19 and 21)** for transmission on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** to the mobile terminal transmitting the respective scheduling request **(i.e. See Fig.2 WTRU 100 sending rate/schedule request as detailed in paragraphs 19-21)**, and

a scheduling section adopted to schedule **(i.e. Node B 200 of Figs. 1 and 2 has a scheduler 222 shown in Fig. 4)** uplink resources **(i.e. TFCS, time of transmission, power level – see paragraphs 19-22)** for transmissions of said mobile terminals on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** based on the identifier and the QoS attributes related to the flow identified by the identifier **(i.e. even though Nokia-3GPP has disclosed flow identifier and each flow has some form of QoS stored in the Node B still Terry'133 teaches request is made per flow (i.e. "The EU rate request ....for each data flow.") in paragraphs 19 and 22 and Terry'133 further discloses the RNC configures the uplink QoS parameters for Node-B as detailed**

in paragraph 15 and all grants made to the mobile are subject to the configured QoS parameters in Node B as detailed in paragraphs 21, 23, and 28) .

In view of the above, having the base station of Nokia-3GPP and then given the well established teaching of Terry'133, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the base station of Nokia-3GPP as taught by Terry'133, since Terry'133 clearly states in paragraph 28 that the modification results in ability to manage uplink resources between the mobile and Node B.

Regarding **claim 102**, it is noted that the limitations of claim 102 corresponds to that of claim 81 as discussed above, please see the Examiner's comments with respect to claim 81 as set forth in the rejection above.

Regarding **claim 103**, it is noted that the limitations of claim 103 corresponds to that of claim 82 as discussed above, please see the Examiner's comments with respect to claim 82 as set forth in the rejection above.

Regarding **claim 106**, it is noted that the limitations of claim106 corresponds to that of claim 88 as discussed above, please see the Examiner's comments with respect to claim 88 as set forth in the rejection above.

Regarding **claim 107**, it is noted that the limitations of claim107 corresponds to that of claim 89 as discussed above, please see the Examiner's comments with respect to claim 89 as set forth in the rejection above.

Regarding **claim 108**, it is noted that the limitations of claim108 corresponds to that of claim 91 as discussed above, please see the Examiner's comments with respect to claim 91 as set forth in the rejection above.

Regarding **claim 109**, it is noted that the limitations of claim109 corresponds to that of claim 95 as discussed above, please see the Examiner's comments with respect to claim 95 as set forth in the rejection above.

Regarding **claim 110**, it is noted that the limitations of claim110 corresponds to that of claim 96 as discussed above, please see the Examiner's comments with respect to claim 96 as set forth in the rejection above.

Regarding **claim 111**, it is noted that the limitations of claim111 corresponds to that of claim 97 as discussed above, please see the Examiner's comments with respect to claim 97 as set forth in the rejection above.

Regarding **Claim 118**, Nokia-3GPP discloses a computer readable storage medium for storing instructions that when executed by a processor of a base station

(i.e. Node B of Section 2.1) in a mobile communication system cause the base station to schedule transmissions by a plurality of mobile terminals **(i.e. UE of Section 2.1)**, wherein each mobile terminal transmits data of at least one flow mapped on a dedicated uplink channel **(i.e. E-DCH as indicated in paragraph 2 of Section 2.1)**, by:

receiving a scheduling request **(i.e. uplink grant request as shown in paragraph 1 of Section 2.1)** from at least one of the mobile terminals **(i.e. UEs)** at the base station **(i.e. Node B)**, wherein the scheduling request comprises an identifier identifying one of the plurality of flows **(i.e. section 2.1 fourth option paragraph 1 grant request per priority queue associated with a specific flow like Applicant's Figure 10 and in paragraph 2 use of service priority id is disclosed)**.

Nokia-3GPP fails to expressly disclose receiving at the base station from a radio network controller Quality of Service attributes. Nokia-3GPP does teach the base station (i.e. Node B) knowing the QoS of each flow in terms of its priority (See Section 2.1 option 4).

However, the above mentioned claimed limitations are well known in the art as evidenced by Kekki'953. In particular, Kekki'953 discloses receiving at the base station **(i.e. Node B)** from a radio network controller (i.e. RNC) Quality of Service attributes **(See in Kekki'953 paragraphs 40, 49 and 54 disclosing the RNC setting QoS parameters and sending it to the base station)**.

In view of the above, having the medium of Nokia-3GPP and then given the well established teaching of Kekki'953, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the medium of Nokia-

3GPP as taught by Kekki'953, since Kekki'953 clearly states in paragraph 50 that the modification results in a cheaper and simpler implementation of a base station.

Nokia-3GPP fails to expressly disclose a base station with knowledge of (QoS) information of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal. Nokia-3GPP discloses a Node B with knowledge of service priority of a plurality of flows to be multiplexed onto a single dedicated uplink channel by a mobile terminal (See Section 2.1 option 4 for details).

Schultz'855 discloses a base station **(See Figure 2, Node B)** with knowledge of (QoS) information of a plurality of flows **(i.e. each RAB in Figure 7 has a unique QoS known at setup by Node-B as illustrated on page 28, Lines 19-22)** to be multiplexed **(i.e. the flows on the transport channels are muxed at the UE)** onto a single dedicated uplink channel **(i.e. physical channel DCH of Figure 7)** by a mobile terminal **(UE) (See also pages 6 and 7 discussion with regards to Figure 2 and pages 27-29 for discussion with regards to Figure 7)**.

In view of the above, having the medium of Nokia-3GPP and then given the well established teaching of Schultz'855, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by Schultz'855, since Schultz'855 clearly states on page 3, Lines 19-22 that the modification results in ability to handle specified guaranteed bandwidth and QoS requirements when multiplexing more than one incoming data flow onto a single output channel.

Nokia-3GPP also fails to expressly disclose requests allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request, and

scheduling by the base station uplink resources for transmissions of said mobile terminals on the dedicated uplink channel based on the identifier and the QoS attributes related to the flow identified by the identifier.

Nokia-3GPP, however, discloses scheduling by the base station (*i.e. Node B does scheduling in section 2.1 option 4)* the transmissions of the mobile terminals based on the identifier *(i.e. service priority indicator of section 2.1 option 4)* and the QoS information related to the flow identified by the identifier *(Nokia-3GPP discloses Node B knows the relative priority of each queue where priority by itself is a form of QoS and Node B takes into account the QoS info when making scheduling decisions as discussed in detail in Section 2.1 option 4)*.

However, the above mentioned claimed limitations are well known in the art as evidenced by Terry'133. In particular, Terry'133 discloses requests **(i.e. request generated by element 122 of mobile/WTRU of Fig. 3)** allocation of an uplink resource **(i.e. Uplink TFC set, rate, power as detailed in paragraphs 19 and 21)** for transmission on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** to the mobile terminal transmitting the respective scheduling request **(i.e. See Fig.2 WTRU 100 sending rate/schedule request as detailed in paragraphs 19-21)**, and

scheduling by the base station **(i.e. Node B 200 of Figs. 1 and 2)** uplink resources **(i.e. TFCS, time of transmission, power level – see paragraphs 19-22)** for

transmissions of said mobile terminals on the dedicated uplink channel **(i.e. E-DCH 102 of Figure 3)** based on the identifier and the QoS attributes related to the flow identified by the identifier **(i.e. even though Nokia-3GPP has disclosed flow identifier and each flow has some form of QoS stored in the Node B still Terry'133 teaches request is made per flow (i.e. "The EU rate request ....for each data flow.") in paragraphs 19 and 22 and Terry'133 further discloses the RNC configures the uplink QoS parameters for Node-B as detailed in paragraph 15 and all grants made to the mobile are subject to the configured QoS parameters in Node B as detailed in paragraphs 21, 23, and 28)** .

In view of the above, having the medium of Nokia-3GPP and then given the well established teaching of Terry'133, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by Terry'133, since Terry'133 clearly states in paragraph 28 that the modification results in ability to manage uplink resources between the mobile and Node B.

17. **Claims 83-84, 99 and 113** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953, Terry'133 and Schultz'855 as applied to claim 79 above, and further in view of Lucent-3GPP ("Scheduled and Autonomous Mode Operation for the Enhanced Uplink", 2003, 3GPP TSG RAN WG1#31 R1-03-0284).

Regarding **claim 83**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 fail to disclose a method wherein the QoS attributes comprises a transmission mode associated with the data flow.

Lucent-3GPP discloses a method wherein the QoS information comprises a transmission mode associated with the data flow. **(In section 2 and 4 it is shown transmission mode has to do with a choice of scheduling and if Node B controlled scheduling then the QoS info is buffer status, power margin and channel quality)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Lucent-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the modification results in ability to have co-existence of scheduled and autonomous transmission by a user equipment.

Regarding **claim 84**, the combination of Nokia-3GPP, Kekki'953, Terry'133, and Schultz'855 fail to disclose a method, wherein the transmission mode indicates whether data of the flow is transmitted applying an additional gain factor.

Lucent-3GPP discloses a method, wherein the transmission mode indicates whether data of the flow is transmitted applying an additional gain factor. **(Lucent-3GPP**

teaches a transmission mode where the flow is transmitted applying an additional gain factor in bullet item 4 of page 5)

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Lucent-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the modification results in ability to have co-existence of scheduled and autonomous transmission by a user equipment and ability to do H-ARQ with greater flexibility as stated in bullet item 3 of page 5 in Lucent-3GPP's disclosure.

Regarding **claim 99**, the combination of Nokia-3GPP, Kekki'953, Terry'133, and Schultz'855 fail to disclose a method wherein further comprising considering a predetermined gain factor to be additionally applied to the transmission when scheduling the mobile terminal from which the scheduling request has been received at the base station.

Lucent-3GPP discloses a method, wherein further comprising considering a predetermined gain factor to be additionally applied to the transmission when scheduling the mobile terminal from which the scheduling request has been received at the base station **(Lucent-3GPP teaches a transmission mode where the flow is transmitted applying an additional gain factor in bullet item 4 of page 5 and it is**

predetermined to meet the need of already known uplink transport channel power requirement).

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Lucent-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 as taught by Lucent-3GPP, since Lucent-3GPP clearly states in Section 3 that the modification results in ability to have co-existence of scheduled and autonomous transmission by a user equipment and ability to do H-ARQ with greater flexibility as stated in bullet item 3 of page 5 in Lucent-3GPP's disclosure.

Regarding **claim 113**, it is noted that the limitations of claim113 corresponds to that of claim 99 as discussed above, please see the Examiner's comments with respect to claim 99 as set forth in the rejection above.

18. **Claims 85, 87, 104 and 105** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953, Terry'133 and Schultz'855 as applied to claim 79 above, and further in view of Fujitsu-3GPP ("Signaling framework for enhanced uplink scheduling", August 2004, 3GPP TSG RAN1 and RAN2 meetings).

Regarding **claim 85**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 fail to disclose a method, wherein the scheduling request further comprises information on buffer occupancy at the mobile terminal and on a transmission power at the mobile terminal.

Fujitsu-3GPP discloses a method, wherein the scheduling request further comprises information on buffer occupancy at the mobile terminal and on a transmission power at the mobile terminal. **(Fujitsu-3GPP shows Scheduling Information (SI) request with buffer occupancy and transmit power from the UE to Node-B as shown in Figure 1 and item 1 under Uplink Signaling on page 2)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Fujitsu-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by LFujitsu-3GPP, since Fujitsu-3GPP clearly states in Section 1 that the modification results in a flexible signaling framework.

Regarding **claim 87**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 fail to disclose a method, further comprising transmitting a scheduling assignment from the base station to at least one of the mobile terminals from which a scheduling request has been received at the base station, wherein the scheduling

assignment indicates a uplink resource allocated to the mobile terminal on the dedicated uplink channel.

Fujitsu-3GPP discloses a method, further comprising transmitting a scheduling assignment **(i.e. SAs in Figure 1)** from the base station **(i.e. Node B)** to at least one of the mobile terminals **(UE of Figure 1)** from which a scheduling request has been received at the base station, wherein the scheduling assignment indicates a uplink resource allocated **(rate, power, time, bandwidth)** to the mobile terminal on the dedicated uplink channel **(See items 1 and 2 on page 3 regarding downlink Schedule Assignment)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Fujitsu-3GPP, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination of Nokia-3GPP, Kekki'953, and Schultz'855 as taught by Fujitsu-3GPP, since Fujitsu-3GPP clearly states in Section 1 that the modification results in a flexible signaling framework.

Regarding **claim 104**, it is noted that the limitations of claim 104 corresponds to that of claim 85 as discussed above, please see the Examiner's comments with respect to claim 85 as set forth in the rejection above.

Regarding **claim 105**, it is noted that the limitations of claim105 corresponds to that of claim 87 as discussed above, please see the Examiner's comments with respect to claim 87 as set forth in the rejection above.

19. **Claims 98 and 112** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Kekki'953, Terry'133 and Schultz'855 as applied to claim 79 above, and further in view of Cheng et al (US Pub. No 2004/0228313 A1).

Regarding **claim 98**, the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 disclose a method using a scheduling request. **(See Section 2.1 option 4)**

The combination of Nokia-3GPP, Kekki'953, and Schultz'855 fail to disclose a service type indicator indicating a transmission of data of the flow carrying a delay-critical service on the dedicated uplink channel.

Cheng'313 discloses a service type indicator indicating a transmission of data of the flow carrying a delay-critical service on the dedicated uplink channel **(Cheng''313 in paragraph 28 and Figure 2 indicates a service type indicator indicating a transmission of data of the flow carrying a delay-critical service such as video conference on the uplink)**.

In view of the above, having the method based on the combination of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 and then given the well established teaching of Cheng'313, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method based on the combination

of Nokia-3GPP, Kekki'953, Terry'133 and Schultz'855 as taught by Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 112**, it is noted that the limitations of claim112 corresponds to that of claim 98 as discussed above, please see the Examiner's comments with respect to claim 98 as set forth in the rejection above.

20. **Claims 114-116, 117, and 119** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nokia-3GPP in view of Cheng'313.

Regarding **claim 114**, Nokia-3GPP discloses a method for transmitting data in a mobile communication system **(See Section 2.1)**, the method comprising:

transmitting from a mobile terminal **(i.e. UE)** to a base station **(i.e. Node B)** a scheduling request, wherein the scheduling request comprises a flow identifier **(i.e. Service Priority indicator)**

identifying one of a plurality of flows **(i.e. Mac-d flows)** to be multiplexed onto a single dedicated uplink channel **(i.e. E-DCH)**, and

wherein the flow identifier identifies Quality of Service (QoS) attributes related to the identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and priority is QoS and Node B has knowledge of relative priority of each**

flow. Priority and the actual rate to be granted can be viewed as QoS attributes– see section 2.1 option 4 for details).

Nokia-3GPP fails to expressly disclose requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request, receiving at the mobile terminal from the base station a scheduling assignment considering the QoS attributes related to the identified flow, multiplexing data of the plurality of flows to the dedicated uplink channel, and transmitting data on the dedicated uplink channel according to the scheduling assignment. *Nokia-3GPP discloses Mac-D flow multiplexing and the Node B making scheduling decision based on QoS information related to the identified flow in Section 2.1 option 4.*

Cheng'313 discloses requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request **(See paragraph 49 where Cheng'313 discloses queue length, delay and rate allocation request from the mobile to Node B)**, receiving at the mobile terminal from the base station a scheduling assignment **(downlink schedule notify in paragraph 49)** considering the QoS information related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE receiving signal from Node B containing transmission parameter for scheduling based on QoS info)**, multiplexing data of the plurality of flows to the dedicated uplink channel **(See paragraph 29)**, and receiving at the mobile terminal from the base station a scheduling assignment **(See paragraph 28)** considering the QoS information related to the

identified flow, multiplexing data of the plurality of flows **(i.e. Mac-d flows of Figure 4)** to the dedicated uplink channel **(Figure 4 – EU-DCH)**, and transmitting data dedicated uplink channel **(Figure 4 – EU-DCH)** according to the scheduling assignment **(In Figure 4 the mac entity of the UE is shown performing transmitting data according to the scheduling assignment)**.

In view of the above, having the method of Nokia-3GPP and then given the well established teaching of Cheng'313, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Nokia-3GPP as taught by Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 115**, the combination of Nokia-3GPP and Cheng'313 disclose a method, further comprising receiving QoS attributes from a network element **(i.e. Node B or base station as indicated in paragraphs 27 and 28)** terminating the radio resource control signaling **(RRC signaling used as indicated in paragraph 53)** of the mobile terminal at the mobile terminal **(The Node B sends schedule assignments with QoS parameters and Node B terminates the mobiles RRC signaling emanating from MAC-EU 340 of Figure 3 as discussed in paragraph 27, 28 and 53.)**

Regarding **claim 116**, Nokia-3GPP discloses a mobile terminal **(i.e. UE of section 2.1 option 4)** for transmitting data in a mobile communication system, the mobile terminal comprising:

a transmitting section operable to transmit to a base station a scheduling request **(i.e. uplink grant request of Section 2.1)**,

wherein the scheduling request comprises a flow identifier **(i.e. service priority indicator)** identifying one of a plurality of flows (i.e. Mac-d flows) to be multiplexed onto a single dedicated uplink channel **(i.e. E-DCH is used for uplink communication and Mac-d flows are multiplexed)**, and

wherein the flow identifier identifies Quality of Service (QoS) attributes related to the identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and priority is QoS and Node B has knowledge of relative priority of each flow – Priority and the actual rate to be granted can be viewed as QoS attributes – see section 2.1 option 4 for details)**.

Nokia-3GPP fails to expressly disclose requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request, a receiving section operable to receive from the base station a scheduling assignment considering the QoS information related to the identified flow, and a multiplexer operable to multiplex data of the plurality of flows to the dedicated uplink channel, wherein the transmitting section is further operable to transmit data on the dedicated uplink channel according to the scheduling assignment.

Nokia-3GPP discloses Mac-D flow multiplexing and the Node B making scheduling decision based on QoS information related to the identified flow in Section 2.1 option 4.

Cheng'313 discloses requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request **(See paragraph 49 where Cheng'313 discloses queue length, delay and rate allocation request from the mobile to Node B)**, a receiving section operable to receive from the base station a scheduling assignment **(i.e. downlink schedule notify in paragraph 49)** considering the QoS attributes related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE receiving signal from Node B containing transmission parameter for scheduling based on QoS info)**, and

a multiplexer **(i.e. Figure 3. element 320 – mac-d)** operable to multiplex data of the plurality of flows to the dedicated uplink channel **(i.e. DCH of Figure 3 or EUDCh of Figure 4)**, wherein the transmitting section is further operable to transmit data on the dedicated uplink channel **(Figure 4 – EU-DCH)** according to the scheduling assignment **(i.e. according to schedule mode of Figure 4. In Paragraphs 39-41 Cheng'313 shows how the MAC-D multiplexed the Mac-d flows and in paragraph 29 discusses the scheduling assignment).**

In view of the above, having the mobile terminal of Nokia-3GPp and then given the well established teaching of Cheng'313, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the mobile terminal of Nokia-3GPP as taught by Cheng'313, since Cheng'313 clearly states in

paragraphs 11 and 12 that the modification results in a flexible signaling framework to map data for uplink transmission.

Regarding **claim 117**, it is noted that the limitations of claim117 corresponds to that of claim 115 as discussed above, please see the Examiner's comments with respect to claim 115 as set forth in the rejection above.

Regarding **claim 119**, Nokia-3GPP discloses a computer readable storage medium for storing instructions that when executed by a processor cause a mobile terminal to transmit data in a mobile communication comprising system **(See Section 2.1)**, by:

transmitting from the mobile terminal **(i.e. UE)** to a base station **(i.e. Node B)** a scheduling request, wherein the scheduling request comprises a flow identifier **(i.e. Service Priority indicator)**

identifying one of a plurality of flows **(i.e. Mac-d flows)** to be multiplexed onto a single dedicated uplink channel **(i.e. E-DCH)**, and

wherein the flow identifier identifies Quality of Service (QoS) information related to the identified flow **(i.e. Node B based on the id maps it a QoS associated with the flow and priority is QoS and Node B has knowledge of relative priority of each flow – see section 2.1 option 4 for details)**.

Nokia-3GPP fails to expressly disclose requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal

transmitting the respective scheduling request, receiving at the mobile terminal from the base station a scheduling assignment considering the QoS information related to the identified flow, multiplexing data of the plurality of flows to the dedicated uplink channel, and transmitting data on the dedicated uplink channel according to the scheduling assignment. Nokia-3GPP discloses Mac-D flow multiplexing and the Node B making scheduling decision based on QoS information related to the identified flow in Section 2.1 option 4.

Cheng'313 discloses requesting allocation of an uplink resource for transmission on the dedicated uplink channel to the mobile terminal transmitting the respective scheduling request **(See paragraph 49 where Cheng'313 discloses queue length, delay and rate allocation request from the mobile to Node B)**, receiving at the mobile terminal from the base station a scheduling assignment **(downlink schedule notify in paragraph 49)** considering the QoS information related to the identified flow **(see paragraphs 12, 28 and 49 Cheng'313 the UE receiving signal from Node B containing transmission parameter for scheduling based on QoS info)**, multiplexing data of the plurality of flows to the dedicated uplink channel **(See paragraph 29)**, and receiving at the mobile terminal from the base station a scheduling assignment **(See paragraph 28)** considering the QoS information related to the identified flow, multiplexing data of the plurality of flows **(i.e. Mac-d flows of Figure 4)** to the dedicated uplink channel **(Figure 4 – EU-DCH)**, and transmitting data on the dedicated uplink channel **(Figure 4 – EU-DCH)** according to the scheduling assignment

(In Figure 4 the mac entity of the UE is shown performing transmitting data according to the scheduling assignment).

In view of the above, having the medium of Nokia-3GPp and then given the well established teaching of Cheng'313, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the medium of Nokia-3GPP as taught by Cheng'313, since Cheng'313 clearly states in paragraphs 11 and 12 that the modification results in a flexible signaling framework to map data for uplink transmission.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HABTE MERED whose telephone number is (571)272-6046. The examiner can normally be reached on Monday to Friday 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on 571 272 7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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